



Waterlife Recovery Trust



NEWSLETTER 2: April 2023

Act locally, think globally

As the Waterlife Recovery Trust grows in size and geographical scope, I seem to be glued to my laptop for much of the time, often looking wistfully out of the window and hoping for an excuse to get out and enjoy the spring weather. A few years ago, regular catches of mink resulted in opportunities to get out and about, but I can't remember the last time a mink activated a trap in my local network, and catches of non-target



creatures are few in winter. I was therefore excited when I woke this morning to see that a nearby trap on the Ouse Washes had pinged in the early hours, and rushed out to discover what had been caught. The answer was the delightful water vole in this image - one of only three reported from this area, and the first in six years. Watching this vole swim away after release gave me real joy, and I silently thanked him for reminding me what all my work, and that of the many hundreds reading this newsletter, is all about. I like to think that catching mink in my home patch over the past few years helped this vole and his unseen family

members return to this waterway - just one of the countless thousands of native creatures alive across eastern England today that probably would be missing if mink remained.

This pattern of mink captures being replaced by those of mink prey is now well established, so we can predict with increasing confidence what resources of people and traps will be needed in any new trapping areas during Year 1, Year 2 etc. I'm currently writing an application for an eye-watering amount of money from DEFRA's Species Recovery Fund to clear mink (and save water voles) from a crescent of land (and water) from the Thames to Greater Lincolnshire; valuable previous experience is already informing our future work.

Not a week goes by without hearing from someone who has heard of our success and wants to replicate it in their part of this large island of ours. Most of the enquiries are from England, but I was especially pleased to hear recently from two pioneering gentlemen from Argyll in west Scotland. For many years, Ali and Mike have shown great dedication and ingenuity in catching mink to protect seabirds and a precious colony of fossorial water voles, and now they want to reduce the heavy burden of daily trap visits by deploying smart traps. The prospect of eradicating mink from the west coast of Scotland has long kept me awake at night, so I can feel a trip to glorious Argyll coming on; time to consult the experts.

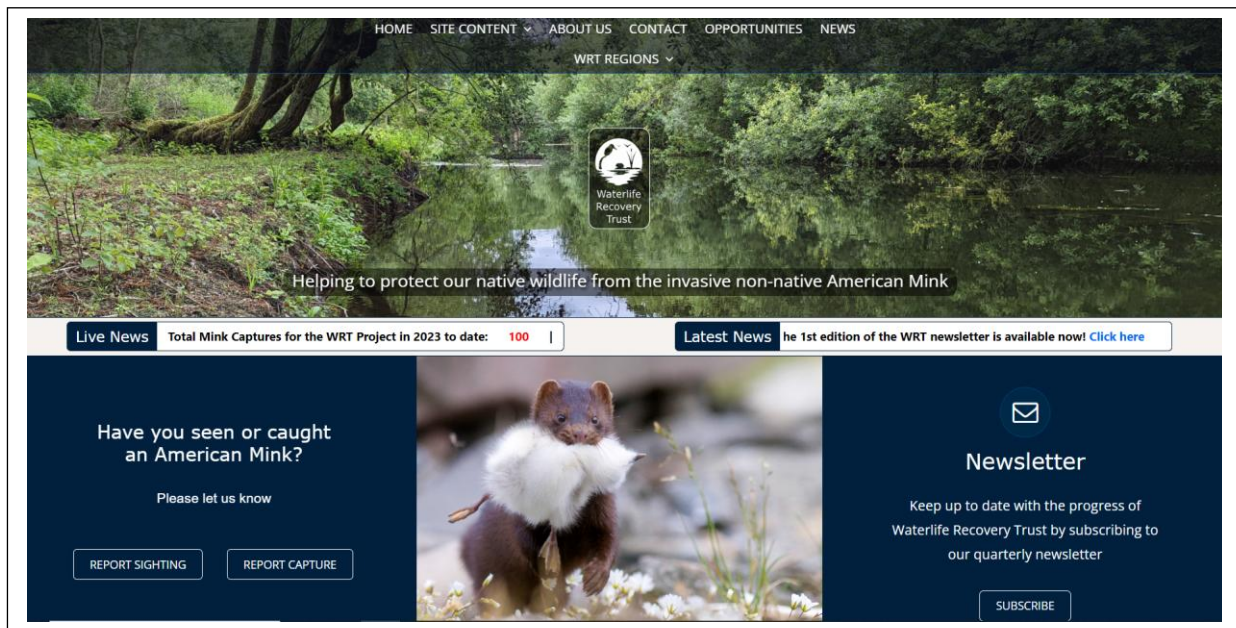


The W. coast of Scotland may pose a few problems....

A New Website

We have had, until recently, two websites dedicated to our work **writes Simon Baker**. The first was covering the Norfolk Mink Project and the other was designed to support work being carried out by Waterlife Recovery East (WRE). However, mink control operating as part of the Waterlife Recovery Trust programme has expanded outside even the area covered by WRE. We therefore need a website that can support the whole WRT family and we believe that the new WRT website does just that.

Stephen Mace has been working hard on this for us and when you log in to <https://www.waterliferecoverytrust.org.uk/> you will see the following home page:



All the generic 'best practice' and other data needed by everyone, no matter where they are working, is held under the WRT Home Page. The live news will also carry total mink kills that relate to the whole project area, taken from the cloud database.

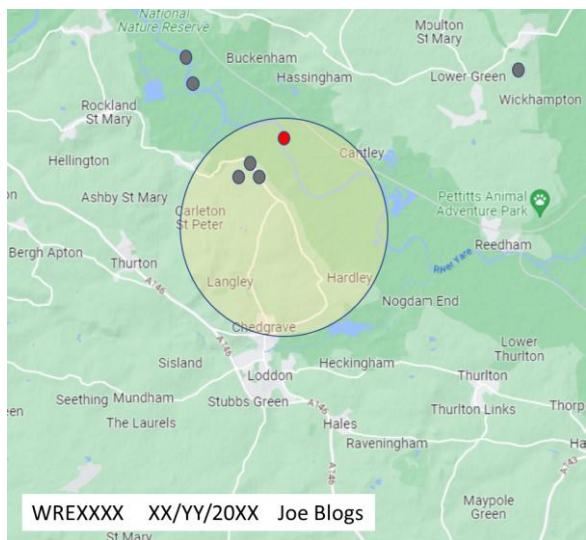
Below the *WRT Regions* tab, in the top centre of the image, we can have a series of web pages each devoted to one Region. The first of these is for WRE and looks very much like the old WRE website and includes information that primarily concerns the East Anglia region. Other regions, as they develop, will similarly be able to mount their own distinctive content. The Norfolk Mink Project and Waterlife Recovery East websites will be initially reduced to sites that point users to the new WRT site. They will ultimately be taken down completely. Have a look at the new website; we think you will like it.

As well as restructuring the websites, we will soon be modifying the cloud database that holds all the mink trapping data. The changes will also reflect a regional structure and make the database accessible to Project Officers wherever they are working, while providing appropriate safeguards over everyone's data.

Genetics Update

There is mixed news on the genetics front, **writes Bill Amos**. On the negative side is that my efforts to get an efficient and cost-effective method for obtaining genetic data from the maternally inherited mitochondrial DNA have continued to be a case of 'nearly there, better luck next time'. This is what has been occupying me a lot over the last month or two. Against this are two big pluses. First, we have received news of significant funding that will cover us at least for the next year and probably the year after.

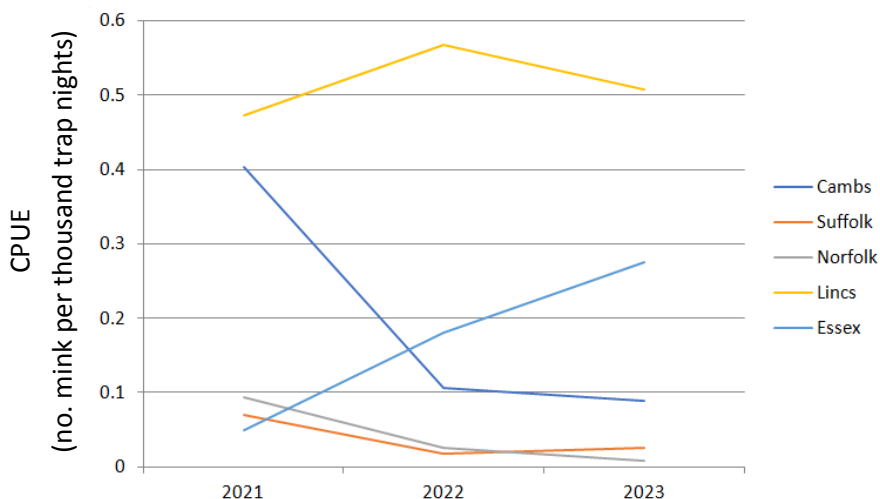
Second, we have been given a large set of samples from Scotland, that will allow a fascinating comparison between what happens in areas like the Fens, where mink can disperse in all directions, and in a mountainous terrain where most mink movement is restricted to river valleys.



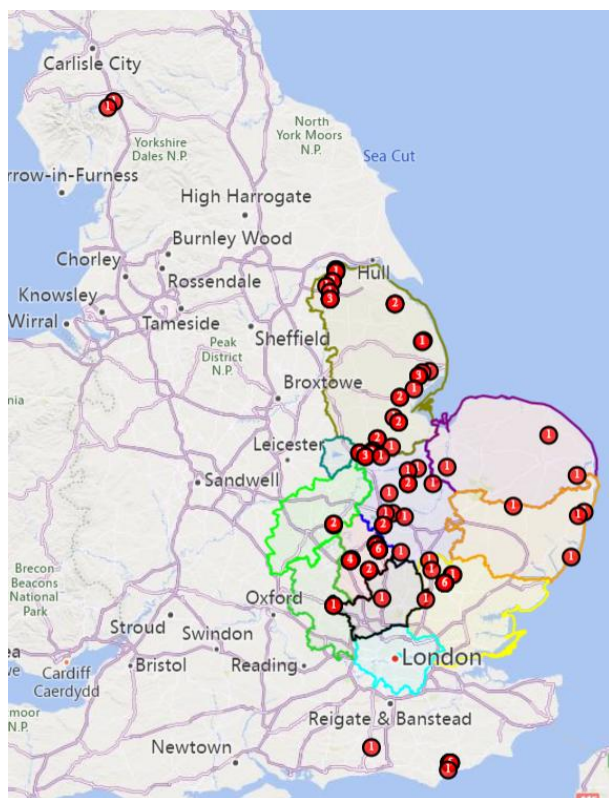
In the meantime, I have been working on developing a system for generating summary 'genetics results' packages that will be available to volunteers through their Coordinator. The idea is that each animal will have an associated map on which will be the capture location (red dot), the locations of all first-degree relatives we have identified (grey dots), the most likely area in which the animal was born (shaded area) and information about who caught the animal and when. It may be possible to divide the first-degree relatives into likely siblings and likely pattern-offspring pairs. At left is a schematic showing what I hope each map will look like. I am fully open to suggestions as to what else you would like to see / what other information would be useful.

A patchwork quilt of mink status and catch rate

The expanding region over which the partnership now operates contains counties with very different mink trapping histories. Norfolk and Suffolk, in particular, have had coordinated trapping for many years, whereas the level of trapping in Lincs has been low, and Essex had traps, then lost them, and is only now beginning to get going again. This diversity of effort is apparent in a measure we commonly use to better manage the project, called CPUE (catch per unit effort). This is simply the number of mink caught divided by the number of trap nights it took to catch them, and it's a good proxy for abundance. This is very useful, because attempting to directly count mink is notoriously unreliable and labour-intensive. The graph at right shows CPUE for five of our counties over the past three years, and is very revealing. Lincolnshire is consistently catching at the highest rate, and Norfolk and Suffolk at the lowest. Mink in these two easterly counties are now few and far between, with the result that reproduction has ceased and water voles are collectively breathing a sigh of relief. Cambs captures are intermediate, but rapidly dropping year-on-year, after a comprehensive trap network was established in early 2021. The Essex capture rate is climbing, probably due to recovery of the mink population there after traps were removed. This county will see a comprehensive trap network established in 2023, and we can be confident that CPUE will soon diminish there as a result.



News from around the country



The map of 2023 mink captures loaded to the database (left) demonstrates a very welcome northward extension of the WRT partnership, into Cumbria. The Eden Rivers Trust is working hard to restore water vole populations in the Lake District, and of course has to clear the area of mink before that could be accomplished. The first DNA samples from their mink will be analysed by Bill Amos at Cambridge University in his next batch. In the northeast of England, the Naturally Native project (run by three county wildlife Trusts) is hoping to gain funding to remove mink for the same purpose, potentially from the east coast all the way across the Pennines to meet up with the Cumbrian operation. If accomplished, this collaboration would establish an invaluable mink-free barrier from coast to coast. As audacious as this may seem, the distance involved is considerably less than that from the Wash to the Thames, which we're collectively pretty much covering already. OK, so there's a mountain range in

between, and we East Anglians would need oxygen to even drive over the top, but in principle there's nothing to prevent this hugely important step towards a mink-free England.

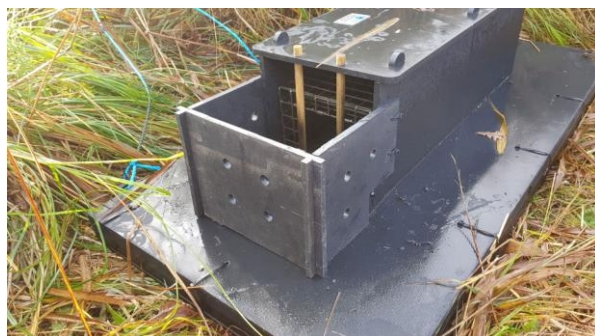
At the other end of the country, interest in bringing water voles back to London, Kent and Sussex has grown to the point where a new WRT 'branch' could help foster collaboration and fill gaps, much as has happened in eastern England. The Waterlife Recovery Southeast partnership has therefore been formed, and we are in the process of seeking partners and forming a Steering Group of key stakeholders to develop it. WRSE is expected to cover London, Kent, Surrey, Sussex, Hants and Berkshire - a combined area of 15,783 sq km, or 12% of England.

The **Norfolk** team began the year scenting all their traps with the powerful and extremely effective mink anal gland lure to coincide with the mink mating period, **writes Simon Baker**. This was no mean task with 383 rafts to visit but was achieved during February with the kind help of a volunteer who covered the northeast of the county. The photograph shows Stephen Mace putting a new lure into the 'golf ball' container – he looks remarkably cheerful given the pungent smell! But it was worth it as we saw early results; two of the three mink caught so far in Norfolk in 2023 were caught within days of the lure being added. The expected trend of catching predominantly females has continued, with all three mink being adult females. We believe that mink are now vanishingly rare in the county as, in this year's period of peak catchability, only 3 were caught, compared to 32 in the first quarter of 2022. As this was using a similar trapping intensity, we are likely to



have together achieved a further 90% decline in the already small mink population. We must be extremely close to a mink free Norfolk, and native wildlife living with one less threat.

The next key period for us to check if things really are going as well as they appear to be, is going to be the late summer and autumn when young mink disperse. If we go through a second year seeing no young mink dispersing, we can feel pretty confident that there are no mink breeding in the county. However, we all know how elusive mink can be, so we cannot yet rule out that some remain, perhaps tucked away somewhere in a gap in the trapping network or we could get some immigration. This would be despite all the great work that is going on in Cambridgeshire and beyond to reduce this possibility, as we know that mink can disperse over large distances, occasionally in excess of 100 km. In summary we should be extremely happy with the progress we have made together but need to remain vigilant.



Water vole excluder around a trap entrance. These are increasingly needed to deter animals that would once have been mink prey.



Drawing the smell of mink through this tube traps molecules of the volatile compounds that make it so, um, memorable.

Some more good news; because of our success in restoring native wildlife populations, we are having to fit more and more water vole excluders to our rafts to reduce by-catch. Despite the name, these devices are equally good at excluding birds but appear to have no impact on mink entering the traps.

On the staff front we are very pleased to welcome Paul Douglas as a new part-time Project Officer working in mid Norfolk. His joining the Team is very timely as Stephen Mace was supporting an exceptionally large number of volunteers and we badly needed to spread that load. We have also just finished two FiPL (Farming in Protected Landscapes) funded projects that have supported our work in the North Norfolk AONB and the Broads. Such support and the continuing support from the IDBs and other partners have been key to our success. Each smart raft costs over £300 so if you can support us with a donation, of whatever size, via the button on our website it would be extremely welcome. We have much to do, both continuing our work in Norfolk and pushing the boundary of trapping still further out into England, which protects an ever-expanding area from the return of mink.

Eau de mink

The odour that mink generate from their anal glands has proven to be a powerful attractant, so we've been using it as a lure in many traps for two years now. This eye-watering substance is harvested from every mink we capture, but we're the victims of our own success, in that far fewer mink are now being caught in the eastern region, so we're increasingly dependent on mink from elsewhere. The time will soon come when there are few mink anywhere, yet the demand for lure will be huge cross the country, so it's time to come up with a solution.

Ideally we'd be able to make eau de mink in a laboratory, then make it available to everyone in a dropper or similar.

Cardiff University has the equipment to analyse and identify the volatile organic compounds that combine to make a recognisable odour, whether it be cherry blossom in spring, a Scandinavian pine forest or indeed mink anal gland loveliness. I've now drawn the scent of 22 breeding-season mink through sampling tubes, with the idea that we'll discover what makes the pong. Then it's a simple matter of using our Patron David Hempleman-Adams' kitchen to experiment with various concoctions until we find a perfect match for the real thing (but let's keep that between ourselves for now).



And, finally, we've recently been called out to an increasing number of rafts that suddenly stopped sending their twice-a-day 'heartbeat' signals - the message that confirms the trap door remains open and all is well. This may be caused by the local phone mast being serviced, or sometimes we attend the trapping site and find that the raft has been wrecked by a rather over-zealous flail operator. More often than not, though, we discover that the raft has been overturned, without any obvious cause in most cases.

Occasionally, a trail camera either on the raft or pointing at it will identify the perpetrator(s). They tend to strike after dark, and then leave the scene without a care in the world. This photo, taken in Hertfordshire, has caught three of the vandals in the act of attempted sabotage - a delightful family of otters. One big dog otter can sometimes turn a raft over by itself, so three are certainly capable of doing so, though fortunately not on this occasion. The good thing is that the electronic box monitoring each trap is waterproof, so it takes but a few minutes to re-right the raft and re-set the trap, leaving everything ready for the next passing mink. Although otters and mink are both in the same mustelid family, and both are semi-aquatic and very inquisitive, it is exceedingly rare for an otter to even attempt to enter a mink trap, and rarer still for one to be captured, partly because the entrance is designed to exclude anything that large. If they ever do become caught, they are always promptly released unharmed, thanks to the fact we use live traps that are constantly monitored. A pressing task now is to design a contraption that increases the stability of our rafts - an outrigger, perhaps. A nice problem to have, though.

With my best wishes,

Tony Martin

Chair of the Waterlife Recovery Trust Board of Trustees

